

REMARKS

Claims 1-31 are all the claims pending in the application. Claims 16-27 have been withdrawn from consideration by the Examiner. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

Information Disclosure Statement (IDS)

Regarding the IDS filed at the time of filing of the present application, JP 63-132158 listed therein is a typographical error of JP 63-132156 as the Examiner notes. Actually, the Examiner asserts that “JP 63-132158 may be a typographical error of JP 63-153156”, but this seems to be a typographical error by the Examiner.

Further, the Examiner states that the two references JP 63-132156 and JP 59-39352 have been received only in part, and that Figs. 7 and 8 referred to in the background of the art discusses additional art other than JP 63-132156. However, each of the references JP 63-132156 and JP 59-39352 originally includes only 1 or 2 pages in total. Therefore, Applicant believes that a full copy of the cited references was duly submitted. As for the Figs. 7 and 8, Applicant believes that the Examiner has only made a comparison with the drawings of JP 63-132156. Drawings that are different from JP 63-132156 are used for Figs. 7 and 8 for the purpose of making a comparison with the other figures easier, but they still illustrate the subject matter disclosed in JP 63-132156. For example, the “assembling reference surface 901a” as shown in Fig. 7 corresponds to a surface designated by a reference numeral 12 in JP 63-132156.

In light of the above, Applicant respectfully requests that the Examiner return an initialed PTO form 1449 indicating consideration of the two cited Japanese references.

The Examiner is requested to call the undersigned to discuss this issue.

Claim Objections

The Examiner objected to claim 11 as including informalities. Applicant has amended claim 11 so as to recite “ball scooping portion” and thus remove this informality.

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1-3, 7-9, 11-13, 15, 30 and 31 under § 102(b) as being anticipated by US Patent 2,882,742 to Conant (hereinafter Conant).

Applicants respectfully traverse this rejection because Conant fails to disclose all of the elements as now set forth in claims 1 and 11.

First, claims 1 and 11 now recite that the guide tube is made of resin. This feature is disclosed in the original specification at least at the last paragraph on page 16.

Regarding the tube guide of independent claims 1 and 11, the Examiner refers to a member indicated by 35 in Fig. 6 of Conant. However, according to the disclosure of Conant, the member 35 is actually a permanent magnet. As described in col. 3, line 70 to col. 4 of Conant, an embodiment shown in Fig. 6 is an alternative embodiment which uses the permanent magnet 35 as a gate means (see col. 2, lines 54-66) to ensure that the tube 17 is filled with balls 16 before they are fed toward the nut 12, thereby assuring spaces between the balls 16 in the nut 12. More specifically, the permanent magnet 35 is mounted on the tube adjacent the ends thereof, and a magnetic field generated by the permanent magnet 35 resists movement of the balls 16.

Therefore, the tube guide made of resin now recited in the amended independent claims 1 and 11 is clearly distinguishable from the permanent magnet 35 disclosed in Conant. Additionally, it would not be obvious from the teachings of the Conant to replace the permanent magnet 35 with a resin member because such a replacement will destroy the function of resisting the movement of the balls by a magnetic field.

Further, independent claim 11 recites the feature of the tube guide as mounting the ball circulation tube onto the nut. However, the permanent magnet 35 of Conant is used for a different purpose as discussed above, and nowhere in Conant is there a teaching that the permanent magnet 35 mounts the tube 17 on the nut 12.

Both independent claims 1 and 11 further set forth that a scooping portion insertion hole is formed so as to penetrate from the top surface of the tube guide to the bottom surface of the tube guide. However, Conant does not explicitly disclose that the permanent magnet 35 is

formed with a hole that penetrates through a top surface to a bottom surface of the permanent magnet 35. Looking at Fig. 6 of Conant, on which the Examiner relies, one cannot see whether a hole is formed through the permanent magnet 35, or whether a pair of permanent magnets 35 are arranged to interpose the tube 17 therebetween.

The Examiner further asserts that the cylindrical shape of the tube guide, which is the feature recited in dependent claims 2 and 12 are also disclosed in Fig. 6 of Conant. However, similarly to the above, one cannot tell whether the permanent magnet 35 is cylindrical or not from the illustration in Fig. 6. Besides nowhere in the disclosure of Conant does it teach that the permanent magnet is or may be cylindrical.

In light of the above, Applicant respectfully requests that the Examiner withdraw this rejection.

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected dependent claims 4-6, 10 and 14 as being obvious over Conant in view of US Patent 6,089,117 to Ebina et al. (hereinafter Ebina), and dependent claims 28 and 29 as being obvious over Conant in view of US Patent 5,373,755 to Rohlinger (hereinafter Rohlinger).

First, Applicant believes that these dependent claims are patentable for at least the reasons given above with respect to independent claims 1 and 11. Specifically, as noted above, Conant is deficient. And these secondary references fail to cure the above-noted deficiencies in Conant.

Further, with respect to claims 28 and 29, Applicant traverses this rejection because the Examiner's interpretation of Rohlinger is mistaken. The Examiner refers to an upper flange portion 41 shown in Fig. 4 and Fig. 6 of Rohlinger for the features recited in dependent claims 28 and 29, i.e., the top surface of the tube guide is chamfered in a smooth arc manner (see page 5 of the Office Action). In addition, the Examiner further asserts that the upper flange portion 41 of Rohlinger is chamfered for the purpose of closely supporting a circulation tube while allowing for a radius to smoothly guide balls, with reference to col. 6, lines 55-65 of Rohlinger.

However, col. 6, lines 55-65, of Rohlinger is silent about the upper flange portion 41 and in fact, nowhere in Rohlinger teaches to chamfer the upper flange portion 41.

The Examiner might have construed the boundary portion between the tube 50 and the upper flange portion 41 as shown in Fig. 4 to be a portion of the upper flange portion 41 that is chamfered along the tube 50. However, as described in col. 6, lines 8-11 of Rohlinger, a bent portion of the tube 50 is received in a gradually included recess 24 formed adjacent to the aperture 21. On the other hand, as described in col. 4, lines 42-51 of Rohlinger, the upper flange portion 41 of the skirt deflector 40 is fitted in a uniform depth recess 23 (see Fig. 5). Namely, the tube 50 is inserted along the gradually inclined recess 24 and a skirt portion 42 (see Fig. 6) of the skirt deflector 40 into the aperture 21. Thus, the upper flange portion 41 does not have to be chamfered along the bent portion of the tube 50. In fact, it is apparent from Fig. 6 that a boundary portion between the upper flange portion 41 and the skirt portion 42 is not chamfered.

In light of the above, Applicant respectfully requests that the Examiner withdraw these rejections.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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